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New Molluscan Species (Gastropoda : Neogastropoda) from the Tropical Eastern Pacific

by

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Abstract. Three new species are described: *Murexiella* ***venustula*** Poorman, spec. nov., off the southern coast of Isla Santa Cruz, Galápagos Islands, Ecuador, and probably the Gulf of California; *Daphnella* ***levicallis*** Poorman, spec. nov., off Estero San Carlos, Sonora, Mexico; *Anachis* (*Parvanachis*) ***mullineri*** Poorman, spec. nov., in Bahía de Santiago, Colima, Mexico.

TWENTY-NINE YEARS of observing and collecting mollusks along the west coasts of the Americas has resulted in the recognition of a number of new species, eight of which have already been published. Three additional species are described herein.

Murexiella Clench & Pérez Farfante, 1945

Type species: *Murex hidalgoi* Crosse, 1869, by original designation.

The small, stoutly fusiform shell has four or more varices with foliated spines connected by a laminated webbing. The siphonal canal is moderately broad and extended. The operculum is muricoid, with a sub-apical nucleus.

Murexiella ***venustula*** Poorman, spec. nov.

(Figures 1, 2, 5)

Description: The shell is small and solid, consisting of five whorls and a turbinate protoconch of three turns. Axial sculpture is of seven strong, broad varices per whorl with narrow interspaces. Each varix crosses the shoulder area to the preceding whorl as a thin lamella but is not joined to it. The first several varices of the teleoconch cross the lower half of the last turn of the protoconch and are attached to it. Spiral sculpture on the body whorl is of five broadly flattened, strong cords that are made up of five scabrous threads. There are two cords on each whorl of the spire. All interspaces are narrow, wider at the bottom. At the base of the aperture is one minor cord and there are two strong, flattened cords on the canal. Anterior cords are hollow at their terminations and scarcely reflected as short, stout spines at the crests of the varices. The degree of reflection increases posteriorly along the varix. The cord at the shoulder is the heaviest and terminates as a large, reflected spine that is twisted toward the apex. There is a major, reflected, open spine at the center of the lamella on the shoulder and a much smaller one near the suture. Areas on the shoulder between the lamellae are flat and show only traces of the two cords causing the spines. The aperture is oval with a nearly complete peristome except along the parietal wall. A shallow, anal sulcus is apparent. Strong crenulations are along the erect outer lip. The spines behind the lip are roundly recurved and are joined for about half their lengths by intricate lamination. The anterior canal is broad and moderately long, nearly straight, narrowly open to the right, and with the end distally recurved. The top and left side of the canal each show four strong, longitudinal threads. Shell color is pinkish beige, with brown on the third spiral cord at the crests of the varices.

Type locality: Off the southern coast of Isla Santa Cruz, Galápagos Islands, Ecuador; 0°47′S Latitude, 90°21′W Longitude; four specimens dredged in 150–200 m.

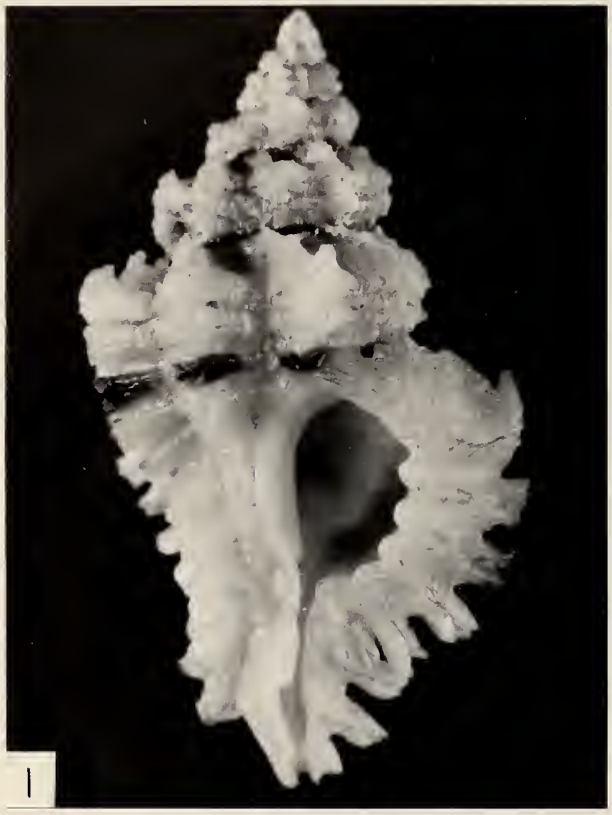
Holotype: San Diego Natural History Museum, SDNHM 81610.

Dimensions of the holotype: Height 19.6 mm, maximum diameter 11.4 mm.

Paratypes: Two paratypes are in the Carl and Laura Shy Collection, Seal Beach, California; one paratype is in the Rose Burch Collection, Seal Beach, California.

One additional specimen was brought in by a fishing boat to Guaymas, Sonora, Mexico, in 1968, probably extending the range to the Gulf of California.

The specific name is taken from the Latin adjective meaning "pretty" or "charming little."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Discussion: This new species is closest to *Murexiella mildredae* Poorman, 1980, in general appearance and in the low, broad, spiral cords overhanging the narrow interspaces (POORMAN, 1980b). It differs in having two, not three, spiral cords on each whorl of the spire, in having numerous and broadly rounded varices, in coloring, and in other sculptural details.

Murexiella ***venustula,*** spec. nov., also has a superficial resemblance to *Murexiella laurae* Vokes, 1970. However, the latter species has a different spine structure and has four varices per whorl (only three on some specimens) on the adult shell (POORMAN, 1980a). Also, the general coloring of the two species is completely different.

Hollow spines formed when the leading edges completely circle to touch are not unusual in *Murexiella.* All three of the above species are of this type. Comparison was made with a specimen of *Murexiella mactanensis* Emerson & D'Attilio, 1979, from Bohol Strait, Philippine Islands. Although the shells differ in general appearance, the basic spine structure is similar.

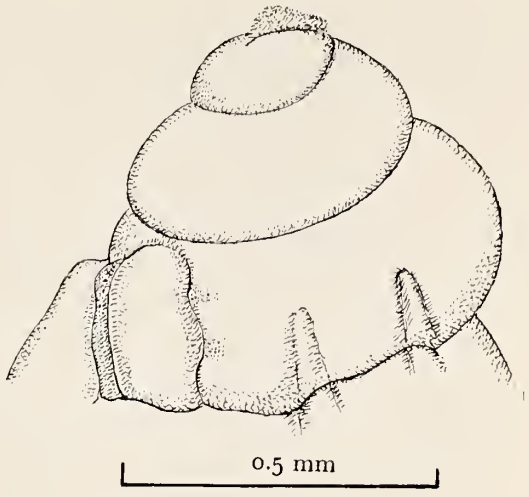

Figure 5

Protoconch of *Murexiella* ***venustula*** Poorman, spec. nov. × 80.

Daphnella Hinds, 1844

Type species: *Pleurotoma lymneiformis* Kiener, 1839–1840.

The shell is cylindro-ovate, slowly contracted to a short, open, truncated, anterior canal. The body whorl is usually more than one-half the shell height. The protoconch is reticulated and of three to four turns. The sinus is sutural, reversed L-shaped. Spiral sculpture is of fine threads overriding numerous fine, axial ribs. There is no operculum. The shell is irregularly maculated with brown.

Daphnella ***levicallis*** Poorman, spec. nov.

(Figures 3, 6)

Description: The shell is larger and more inflated than most species in the genus. The protoconch (eroded on the holotype) is of four turns, narrowly turbinate and diagonally reticulated by fine threads, with small beads at the intersections. The first turn of the protoconch is minute and has small beads (at 250×) arranged in spiral rows and diagonal lines which, by the second turn, become diagonal threads. The last half turn of the protoconch develops a slight, peripheral angulation with the reticulations above the angulation sagging into a band and becoming the trace of the anal sulcus on the teleoconch. The angulation becomes a cord that develops into two threads. These develop into the spiral cords on the teleoconch. The protoconch terminates abruptly in a sinuosity advancing anteriorly. The teleoconch is of six rounded whorls constricted at the suture. Spiral sculpture is of strong threads throughout, 2 on the first turn and 25 on the body whorl. The trace of the anal sulcus is wide and flat, unornamented except for obscure fine threads. Axial sculpture is of numerous low rounded ribs, 10 on the first turn and 25 on the body whorl, extending to the anterior canal. Ribs are crossed by spiral threads in prominent nodes, strongest at the shoulder. The aperture is oval, with a deep J-shaped anal sulcus at the suture. The pillar is nearly straight anteriorly and has light callus. The outer lip is flaring but not produced forward, with a pronounced sinuosity at the lower part. A short, truncated, open, anterior canal is differentiated from the aperture by an angulation in the lip. The outer lip is reinforced by a low ridge of callus just inside, thickest at the anal sinus and at the anterior part of the aperture. Shell color is pale brown maculated with red-brown except for an unmaculated band below the periphery. The third spiral cord below the shoulder is white on early whorls.

Type locality: Five km south of Tetas de Cabra, Estero San Carlos, Sonora, Mexico; 27°54′N Latitude, 111°05′W Longitude; 16 specimens dredged in 80–100 m on broken shell, small rocks, and silt bottom.

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Explanation of Figures 1 to 4

Figure 1. Holotype of *Murexiella* ***venustula*** Poorman, spec. nov. × 5.6.

Figure 2. Holotype of *Murexiella* ***venustula*** Poorman, spec. nov. × 5.6.

Figure 3. Holotype of *Daphnella* ***levicallis*** Poorman, spec. nov. × 6.0.

Figure 4. Holotype of *Anachis* (*Parvanachis*) ***mullineri*** Poorman, spec. nov. × 22.

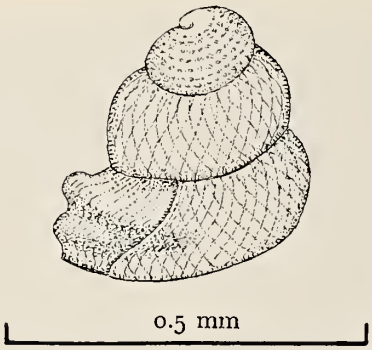

Figure 6

Protoconch of *Daphnella* ***levicallis*** Poorman, spec. nov. × 90.

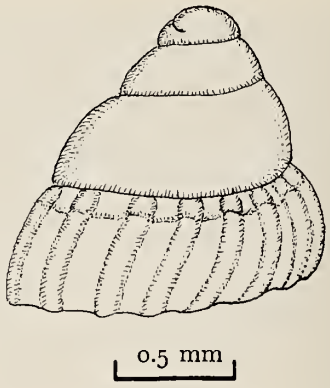

Figure 7

Protoconch of *Anachis* (*Parvanachis*) ***mullineri*** Poorman, spec. nov. × 30.

Holotype: San Diego Natural History Museum, SDNHM 81611.

Dimensions of the holotype: Height 17.3 mm (apex eroded), maximum diameter 7.2 mm.

Paratypes: Nine paratypes are in the Forrest and Leroy Poorman Collection; two paratypes are in the Carl and Laura Shy Collection, Seal Beach, California; four paratypes are in the Paul and Carol Skoglund Collection, Phoenix, Arizona; one paratype will be placed at the Academy of Natural Sciences of Philadelphia.

One additional specimen was dredged by Paul and Carol Skoglund in 100 m off Isla Danzante, Gulf of California.

The specific name is a Latin noun, masculine gender, and refers to the subsutural trace of the anal sulcus as a "smooth mountain path" much like the path up the Tower of Babel.

Discussion: All of the recognized west American *Daphnella* and the new species described here are very similar, differing only in size and details of ornamentation. The mechanism for developing the trace of the anal sulcus is observable on all. This subsutural band is also observable on the teleoconchs but is obscured except on *Daphnella retusa* McLean & Poorman, 1971, and the new species. Thickening of the outer lip occurs both internally and externally on the adults of all the species.

Both *Daphnella retusa* and *Daphnella* ***levicallis***, spec. nov., occur in significant numbers off Estero San Carlos but differ in their bathymetric ranges and habitats. *Daphnella retusa* is found in 30 m on gravel bottoms; whereas *D.* ***levicallis*** is found in 100 m on shell and silt bottoms. *Daphnella* ***levicallis*** is larger, heavier, and of a darker color; the axial ribs are not obsolete on the body whorl, as they are on *D. retusa,* but extend nearly to the anterior canal. The ribs are crossed by strong spiral cords in prominent nodes not occurring on *D. retusa*. The trace of the anal sulcus is broader and flatter on the new species, with the axial ribs projecting slightly at their terminations to give a beaded effect to the shoulder.

Anachis (*Parvanachis*) Radwin, 1968

Type species: *Buccinum obesum* C. B. Adams, 1845.

The shell is small and obese, with a moderately high spire and flat-sided whorls with incised sutures. Body whorl and spire are of equal length. The apertural lip is thickened and denticulated. Sculpture is of prominent axial ribs crossed by spiral cords.

Anachis (*Parvanachis*) ***mullineri*** Poorman, spec. nov.

(Figures 4, 7)

Description: The shell is small and stout, consisting of a turbinate protoconch of four smooth turns and a teleoconch of three and one-fourth whorls, terminating in a large, rounded, lip varix that decreases in size anteriorly. Transition from protoconch to teleoconch begins with weak, slanted ribs advancing anteriorly. The transition takes about one-half whorl when the ribs become longitudinal, rounded, and with equal interspaces. There are about 20 ribs on each whorl. The ribs are abruptly constricted just above the indented suture to leave widened areas in the interspaces. The ribs are rounded, protrude slightly above the shoulder, and are obsolete on the base. A spiral groove just below the indented suture cuts the ribs to produce a row of squarish beads. Below this is a region with no spiral sculpture. The middle half of the body whorl shows nine strong spiral grooves in the interspaces of the ribs. On the base, the spiral grooves override the diminishing ribs producing strong, flat-topped spiral cords. The entire surface of the teleoconch is covered with minute, spiral striae. The narrow aperture is somewhat trapezoidal. The outer lip is sharp, erect, and slightly crenulated by the spiral cords overriding the lip varix. Within the outer lip are six denticles. Columellar callus

is produced into a lamella with a chink behind, both of which extend to the end of the canal (chipped on the holotype). Within the aperture, along the pillar, is a longitudinal ridge of callus with six denticles. The anal sulcus is semicircular in cross section and slightly constricted by parietal callus. The sulcus penetrates the outer lip and varix at an angle of 60° with the axis and curves to terminate at an angle of 90°. The short, anterior canal is at an angle of 30° left of the shell axis, scarcely differentiated from the aperture, and broadly open to the right. The shell is light horn color with a band of darker brown above the periphery and a second indefinite band on the base.

Type locality: Bahía de Santiago, Colima, Mexico; 19°02′N Latitude, 104°28′W Longitude; five specimens dredged in 20 m on sand and gravel bottom.

Holotype: San Diego Natural History Museum, SDNHM 81612.

Dimensions of the holotype: Height 5.0 mm, maximum diameter 2.8 mm.

Paratypes: Four paratypes are in the Forrest and Leroy Poorman Collection.

Additional specimens in the Paul and Carol Skoglund Collection, Phoenix, Arizona, are from: Cuastecomate, Jalisco, dredged in 25–33 m; La Cruz de Juanacaxtle, Bahía de las Banderas, Nayarit, dredged in 20 m; Playa Novellero, Nayarit, diving in 8–12 m.

The specific name is chosen in recognition of David K. Mulliner, San Diego, California, a good friend known to all for his generous contributions of time and talent to the field of malacology.

Discussion: The massive lip varix and the unusual anal sulcus curving across it, together with the erect lamella along the pillar, are distinctive and make further comparison with other existing taxa unnecessary.

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